

California Regional Water Quality Control Board
Santa Ana Region

May 31, 2002

STAFF REPORT

ITEM: 7

SUBJECT: Amendment to Existing Waste Discharge Requirements for County of Orange Integrated Waste Management Department, Frank R. Bowerman Landfill, Order No. R8-2002-0049

DISCUSSION:

The County of Orange Integrated Waste Management Department (hereinafter discharger) owns and operates the Frank R. Bowerman (FRB) Landfill located at 11002 Bee Canyon Access Road in an unincorporated area of Orange County near the City of Irvine. The FRB Landfill is a Class III landfill that accepts non-hazardous municipal solid waste (MSW).

The discharger is currently regulated under Waste Discharge Requirements (WDRs) Orders No. 89-1 and 98-99. Out of a total of 725 acres of the site, 326 acres are currently permitted for landfill operations. The discharger constructed lined landfill cells within these 326 acres in nine separate phases.

The discharger submitted an application for an expansion of the fill area outside of the currently permitted footprint at the FRB Landfill. This lateral expansion, Phase V-D, increases the current landfill footprint by 12 acres.

Regional Board staff has reviewed the Phase V-D expansion design and construction plans and finds them to be consistent with the requirements of California Code of Regulations, Title 27. This expansion should not result in any adverse impacts to either the present or potential beneficial uses of the waters of the Region, if conducted in accordance with the terms and conditions of this order.

RECOMMENDATION:

Adopt Order No. R8-2002-0049, as presented.

**California Regional Water Quality Control Board
Santa Ana Region**

ORDER NO. R8-2002-0049

**Amending Waste Discharge Requirements for
Frank R. Bowerman Landfill
County of Orange Integrated Waste Management Department**

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board) finds that:

1. The County of Orange Integrated Waste Management Department (hereinafter discharger) owns and is responsible for the operation and maintenance of the Frank R. Bowerman (FRB) Landfill. The FRB Landfill is a Class III landfill that accepts non-hazardous municipal solid waste (MSW). The Landfill is located at 11002 Bee Canyon Access Road in an unincorporated area of Orange County near the City of Irvine. Permitted footprint of the FRB landfill is located in portions of Blocks 117, 118, 119, 143, and 144 of Irvine Subdivision in the County of Orange, at latitude 33°42'31" and longitude 117°42'30". The location of the facility is shown on Attachment A, which is hereby made a part of this order. The landfill site encompasses 725 acres, of which 326 acres are currently permitted for landfill operations.
2. On April 14, 1989, Order No. 89-1 was adopted by the Regional Board for landfill operations at this site. Order No. 89-1 contains discharge requirements, provisions, and monitoring and reporting requirements in accordance with Chapter 15, Title 23, Division 3 of the California Code of Regulations (Chapter 15).
3. Order No. 89-1 was subsequently amended by Orders No. 93-57 and 94-17, adopted by the Regional Board on September 10, 1993 and March 11, 1994, respectively, to incorporate new federal regulations (Title 40, Code of Federal Regulations [40CFR], Part 258, known as Subtitle D), and to prescribe Regional Board's uniform drainage and erosion control system requirements for MSW landfills.
4. Effective July 18, 1997, the provisions for MSW landfills in Chapter 15 were replaced by Title 27, California Code of Regulations (Title 27), the combined State Water Resources Control Board /California Integrated Waste Management Board AB 1220 regulations for discharges of waste to land.
5. On November 20, 1998, Orders No. 93-57 and 94-17 were rescinded and replaced by Order No. 98-99. Order No. 98-99 is a blanket waste discharge requirements (WDRs) requiring all municipal solid waste landfills (MSWLFs) to comply with federal Subtitle D regulations and Title 27 requirements.
6. Provision C.2 of Order No. 98-99 stipulates that all MSWLF waste containment systems installed beyond the October 9, 1993 landfill footprint must include a composite liner consisting of an upper synthetic flexible membrane liner that is at least 60-mils thick (if high density polyethylene is used), and a lower component of soil that is at least two feet thick and that has a hydraulic conductivity of no more than 1×10^{-7} cm/s. Provision C.2 of Order No. 98-99 allows engineered alternatives to the prescriptive composite liner, provided that certain conditions are also met.

7. On September 24, 2001, the discharger submitted a Joint Technical Document (JTD), Amendment No. 2, for expansion of the permitted footprint at the FRB Landfill. The proposed lateral expansion of the landfill footprint includes Phase V-D, which is a 12-acre lined area. This lateral expansion will increase the current disposal area from 326 acres to approximately 338 acres. The Phase V-D expansion area is shown on Attachment B, which is hereby made a part of this Order.
8. Phase V-D utilizes an engineered alternative design for the bottom and sideslope liner systems, shown on Attachment C, which is hereby made a part of this permit, and are described below:
 - a. Bottom Liner Systems (from bottom to top)
 - Prepared subgrade
 - 12-inch $\leq 1 \times 10^{-6}$ cm/sec low permeability layer
 - 40-mil HDPE liner/moisture barrier (textured both sides)
 - Geosynthetic Clay Liner (GCL)
 - 60-mil HDPE liner (textured both sides)
 - 16 oz. Geotextile
 - 12-inch LCRS Drainage Layer with a permeability of no less than 1×10^{-2} cm/sec (1/2-inch minus gravel with less than 2 percent fines)
 - 16 oz. Geotextile
 - 24-inch operations layer (1.5-inch minus)
 - Refuse
 - b. Sideslope Liner Systems (from bottom to top)
 - Prepared subgrade
 - 16 oz. Geotextile
 - 40-mil HDPE liner/moisture barrier (textured both sides)
 - Geosynthetic Clay Liner (GCL)
 - 80-mil HDPE liner (textured both sides)
 - 16 oz. Geotextile
 - 24-inch operations layer (1-inch minus)
 - Refuse
9. Regional Board staff believes that the proposed engineered alternative liner design will afford waste containment capability equal to or exceeding that offered by the prescriptive standard liner design, provided that the Construction Quality Assurance (CQA) monitoring requirements and the other provisions specified in this order are met.
10. The capability of the alternative liner systems to afford water quality protection equivalent to the prescriptive liner system depends largely on good construction quality assurance and quality control during the installation of these materials and quality control of the liner materials used.
11. On January 25, 2001, County of Orange, Planning and Development Services Department Director certified the Negative Declaration, SCH No. 2000111047, and filed a Notice of Determination for the Phase V-D expansion at the FRB Landfill. Regional Board staff has reviewed the Negative Declaration and finds that the project should not have any adverse impacts on water quality if conducted in accordance with the

provisions contained in Orders No. 89-1 and 98-99, and this amendment. The preparation and certification of a Negative Declaration for the Phase V-D expansion at the FRB Landfill has satisfied the requirements of California Environmental Quality Act (Public Resources Code, Section 21100 et seq.), Chapter 3, Title 14, California Code of Regulations.

12. The Regional Board has notified the discharger and interested agencies and persons of the Board's intent to amend the waste discharge requirements previously adopted for the discharger, and has provided them with an opportunity to submit their written views and recommendations.
13. The Regional Board, in a public meeting, heard and considered all comments pertaining to the proposed amendment of the existing waste discharge requirements for FRB Landfill.

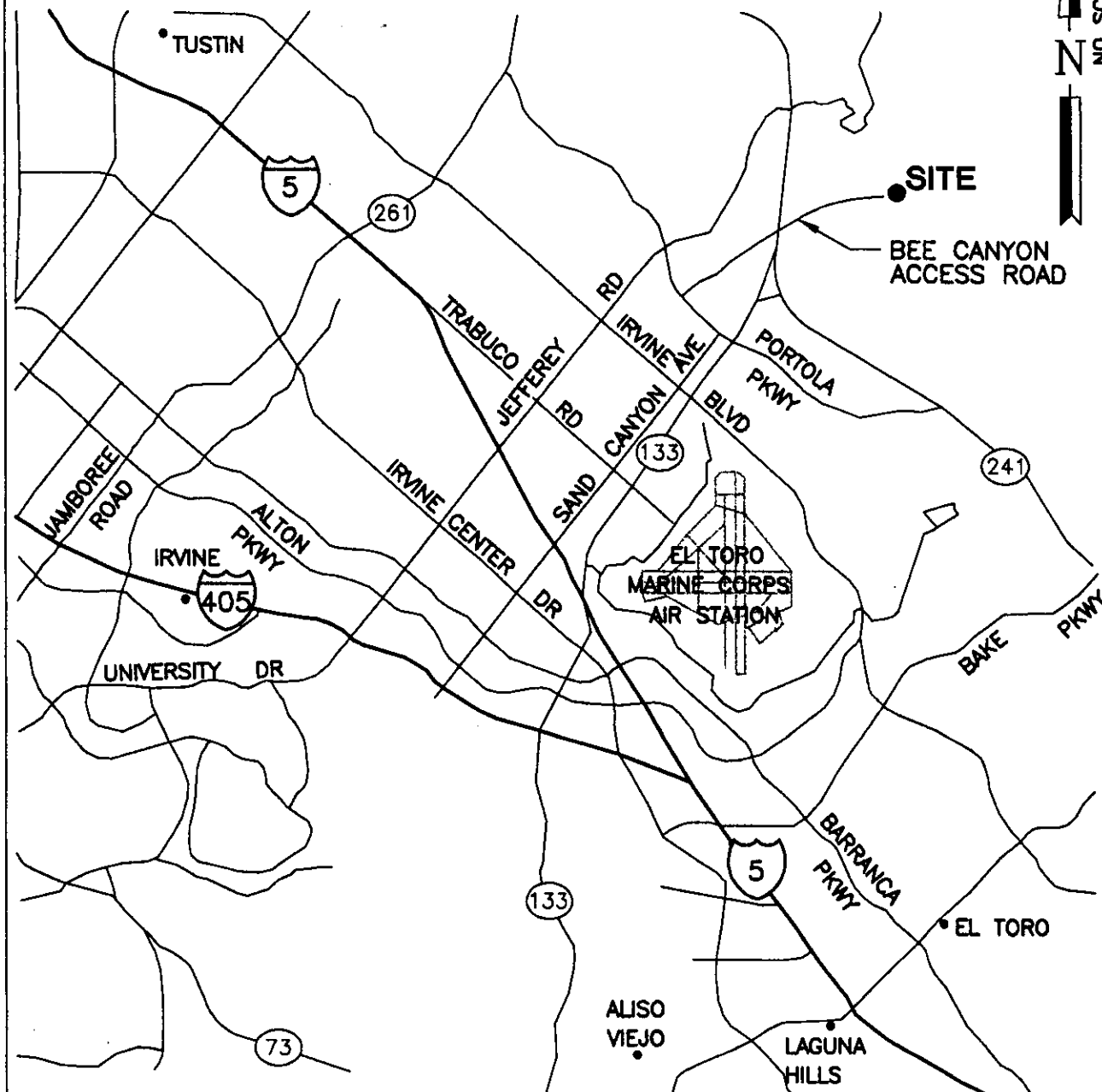
IT IS HEREBY ORDERED THAT the discharger shall comply with the following:

1. The discharger shall comply with the design, construction, and Construction Quality Assurance requirements outlined in the approved JTD and any approved amendments to the JTD.
2. All landfill activities shall be limited to the 338 acres, as outlined in Attachment B of this Order.
3. The discharger shall comply with all the other terms and conditions contained in Orders No. 89-1 and 98-99.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on May 31, 2002.

Gerard J. Thibeault
Executive Officer

Attachment A



ATTACHMENT A



(909) 860-7777

BRYAN A. STIRRAT & ASSOCIATES
CIVIL AND ENVIRONMENTAL ENGINEERS
1380 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

FRANK R. BOWERMAN LANDFILL

SITE LOCATION MAP

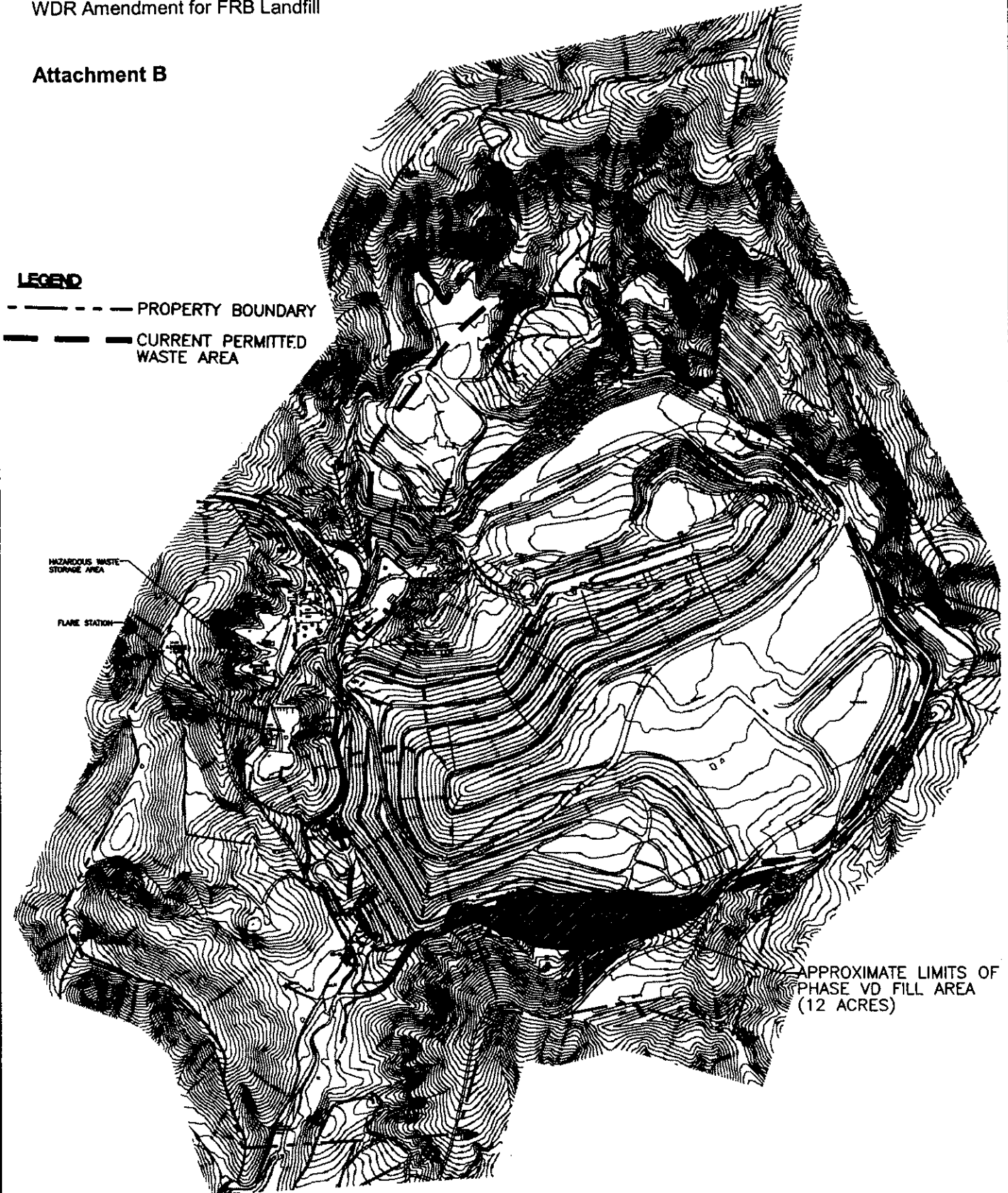
JOB NO.
2000.048-705

DATE
4-2001

DRAWN BY
J.J.G

DRAWING NO.
02101DB

Attachment B



ATTACHMENT B



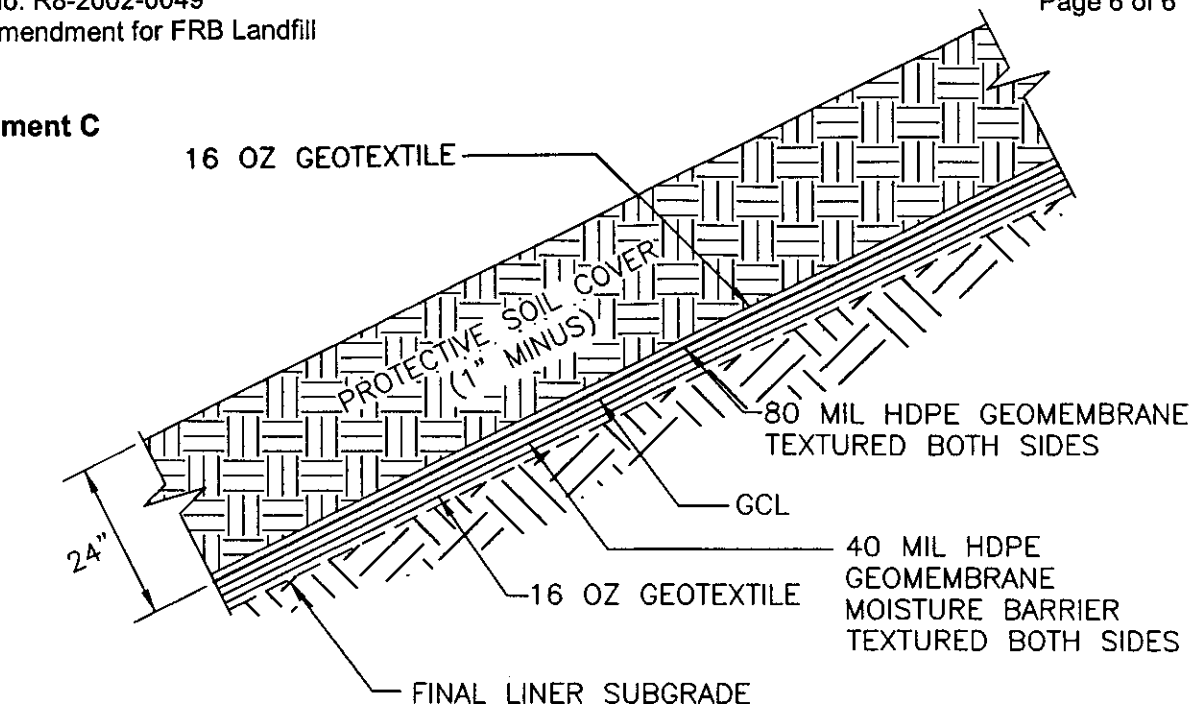
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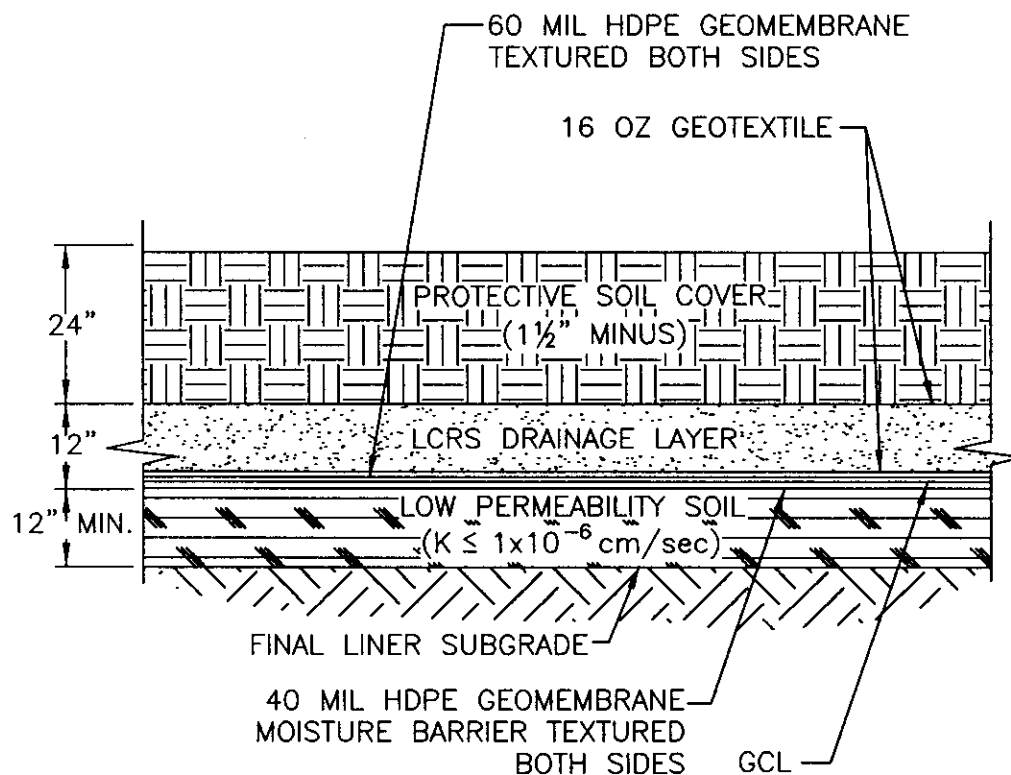
SITE PLAN

DRAWING NO.	17126508
DATE	5-2002
DRAWN BY	C.A.L.
CHECKED BY	V.B.

Attachment C



SLOPE SECTION



BOTTOM SECTION

ATTACHMENT C



BRYAN A. STIRRAT & ASSOCIATES
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**PHASE VD
LINER SECTIONS**

DRAWING NO.	171266DB
DATE	5-2002
DRAWN BY	C.A.L./K
CHECKED BY	V.B.